

What is claimed is:

1. An air conditioner for a hybrid vehicle, the hybrid vehicle having an engine for running the vehicle, an electrical motor generator for running the vehicle and for generating electrical power, and a battery for supplying electrical power to the electrical motor generator, the air conditioner comprising:

an air conditioning unit, to which electrical power is supplied from the battery, for performing air-conditioning operation in a passenger compartment of the vehicle; and

a control unit for controlling operation of the air conditioning unit, wherein:

when a residual charging degree of the battery becomes equal to or lower than a target degree, the electrical motor generator is driven by the engine to charge the battery; and

when a rotation speed of the engine is equal to or lower than a predetermined rotation speed, the control unit decreases an air-conditioning capacity of the air conditioning unit, as compared with a case where the rotation speed of the engine is higher than the predetermined rotation speed.

2. The air conditioner according to claim 1, wherein:

the air conditioning unit includes a refrigerant cycle system in which refrigerant circulates; and

the refrigerant cycle system includes an electrical compressor, operated using electrical power supplied from the battery, for compressing refrigerant.

3. An air conditioner for a hybrid vehicle, the hybrid vehicle having an engine for running the vehicle, an electrical motor generator for running the vehicle and for generating electrical power, and a battery for supplying electrical power to the electrical motor generator, the air conditioner comprising:

an air conditioning unit, to which electrical power is supplied from the battery, for performing air-conditioning operation in a passenger compartment of the vehicle; and

a control unit for controlling operation of the air conditioning unit, wherein:

when a residual charging degree of the battery becomes equal to or lower than a target degree, the electrical motor generator is driven by the engine to charge the battery; and

when a power generation efficiency due to the engine is equal to or lower than a predetermined efficiency, the control unit decreases air-conditioning capacity of the air conditioning unit, as compared with a case where the power generation efficiency due to the engine is higher than the predetermined efficiency.

4. The air conditioner according to claim 3, wherein:

the air conditioning unit includes a refrigerant cycle system in which refrigerant circulates; and  
the refrigerant cycle system includes an electrical compressor, operated using electrical power supplied from the battery, for compressing refrigerant.